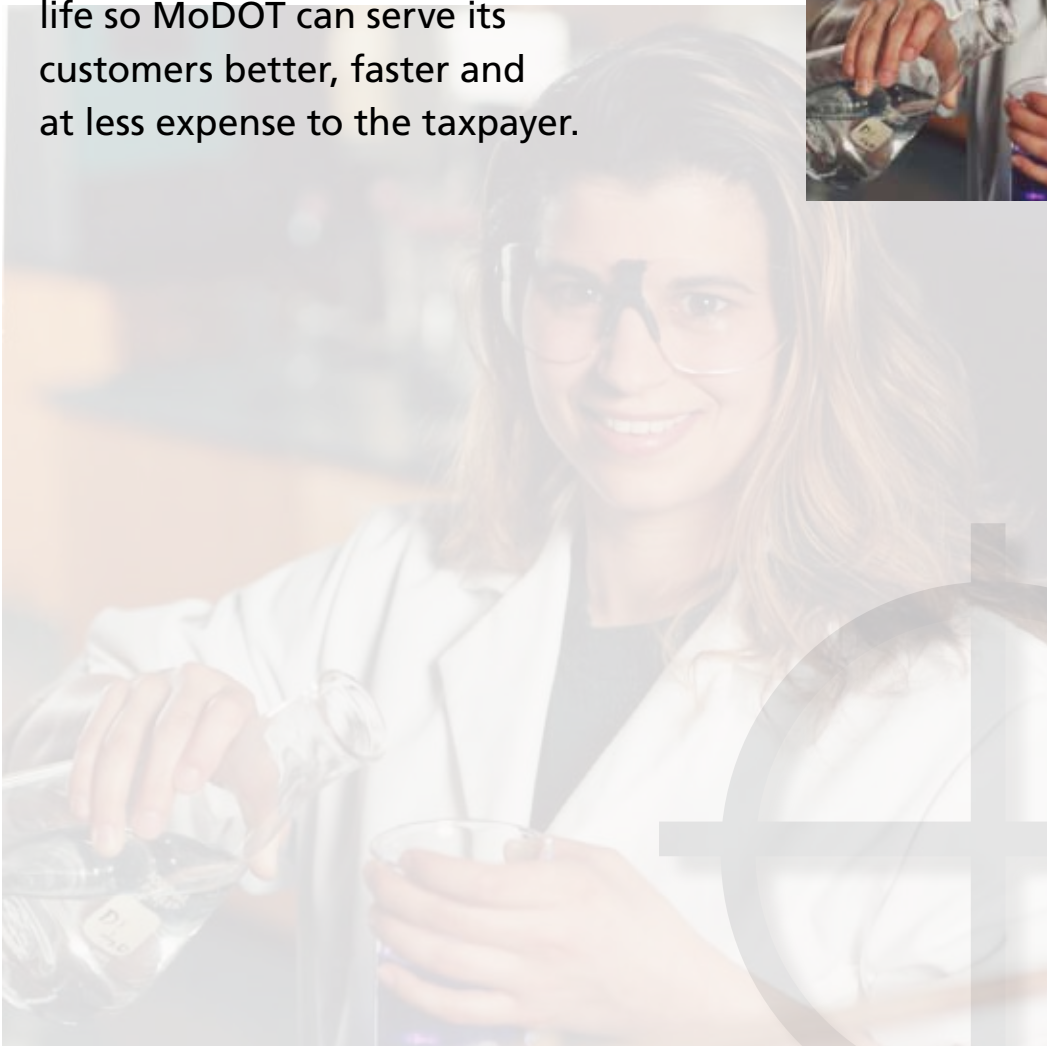


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# Innovative Transportation Solutions

*Tangible Result Driver – Mara Campbell,  
Organizational Results Director*

MoDOT values innovation. The department empowers employees and seeks input from stakeholders to generate innovative ideas. Collaboration with staff, academia and industry make unique concepts come to life so MoDOT can serve its customers better, faster and at less expense to the taxpayer.



## Innovative Transportation Solutions

### *Percent of innovative transportation solutions implemented*

**Result Driver:** Mara Campbell, Organizational Results Director

**Measurement Driver:** Patty Lemongelli, Organizational Performance Administrator

**Purpose of the Measure:**

This measure tracks the percentage of new and innovative ideas, methods, or tools MoDOT accepts into practice as a result of its research program. MoDOT realizes the importance of supporting an aggressive research program driven to provide the department with the latest ideas, technologies, and solutions needed to deliver the most efficient, safe, and economical transportation system.

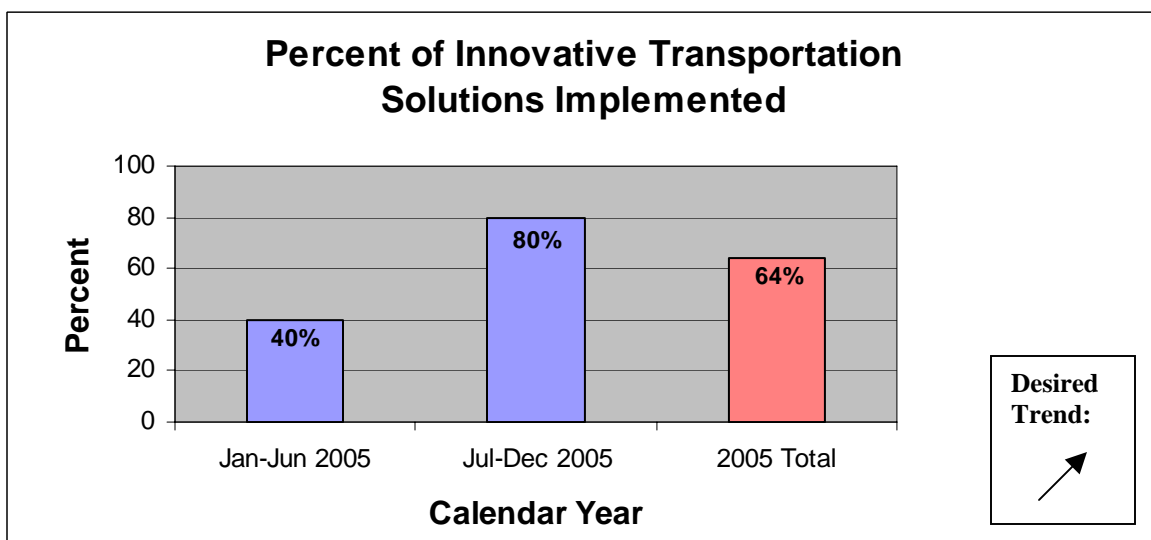
**Measurement and Data Collection:**

Innovative transportation solutions are any new ideas, methods, policies, processes, standards, equipment, tools, etc. introduced for the purpose of improving the department's operation, services, or products. Such solutions are likely introduced as a result of a research project, study, or initiative managed through MoDOT's research program.

"Solutions implemented" refers to the decision by MoDOT to use or apply into practice a new idea, method, policy, process, standard, equipment, tool, etc. for the purpose of improvement. Percent of solutions implemented is determined by dividing the number of research projects having results implemented by the total number of research projects completed during the 12-month calendar year. While many ideas and technologies are pursued through research and related efforts, not all produce solutions, which can be implemented by MoDOT. However, MoDOT's elevated emphasis on implementing new ideas and technologies should result in better and more economical transportation products and services delivered.

**Improvement Status:**

During 2005, MoDOT's research program completed 25 projects. Of those projects completed, 16 produced implemented results making a total of 64 percent innovative transportation solutions implemented for calendar year 2005. MoDOT Organizational Results continues to aggressively pursue research and innovations focused on addressing pertinent department needs and that are more closely tied to the 18 Tangible Results. This focus will lead to more usable solutions and better value in the end. While it's known that all research does not produce results or solutions that can be implemented, MoDOT recognizes the importance and value of getting great innovative transportation solutions "off the shelf and on the street" and is working to ensure that it happens.



## Innovative Transportation Solutions

### *Annual dollar amount saved by implementing value engineering*

**Result Driver:** Mara Campbell, Organizational Results Director

**Measurement Driver:** Kathy Harvey, State Design Engineer

**Purpose of the Measure:**

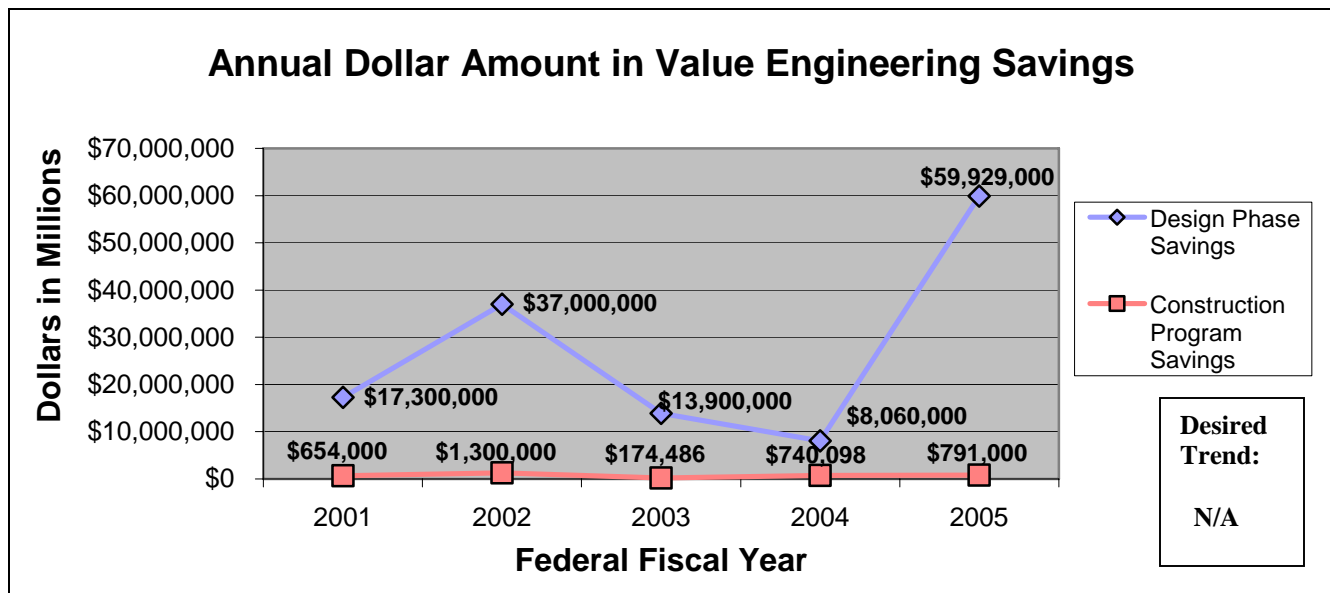
This measure tracks the amount of money MoDOT saves by implementing innovative engineering methods.

**Measurement and Data Collection:**

Value engineering (VE), which has saved MoDOT over \$230 million since 1988, is a valuable tool to use in the implementation of Practical Design. VE can achieve savings at the design phase and can also identify construction program savings. VE is the systematic application of known recognized techniques by multi-disciplined teams that identify the function of a product or service and identify cost effective alternatives using creative approaches to improve a project's quality and efficiency. VE savings are reported annually, based on the Federal Fiscal Year, due to reporting requirements to the Federal Highway Administration.

**Improvement Status:**

A recent emphasis on "Concept Stage" VE studies (CSVE) has proven to be successful at defining project scope and identifying basic functions of what the project must achieve. The focus has been to look at many concepts early in the project development process so that when a preferred concept is selected the design may continue with fewer challenges. By covering all the options early in the process, the design team gets answers sooner which saves on design time. Including external stakeholders on VE teams will continue to prove valuable at building consent.



## Innovative Transportation Solutions

### *Annual dollar amount saved by implementing practical design*

**Result Driver:** Mara Campbell, Organizational Results Director

**Measurement Driver:** Kathy Harvey, State Design Engineer

**Purpose of the Measure:**

This measure tracks the amount of money MoDOT saves by implementing innovative engineering methods.

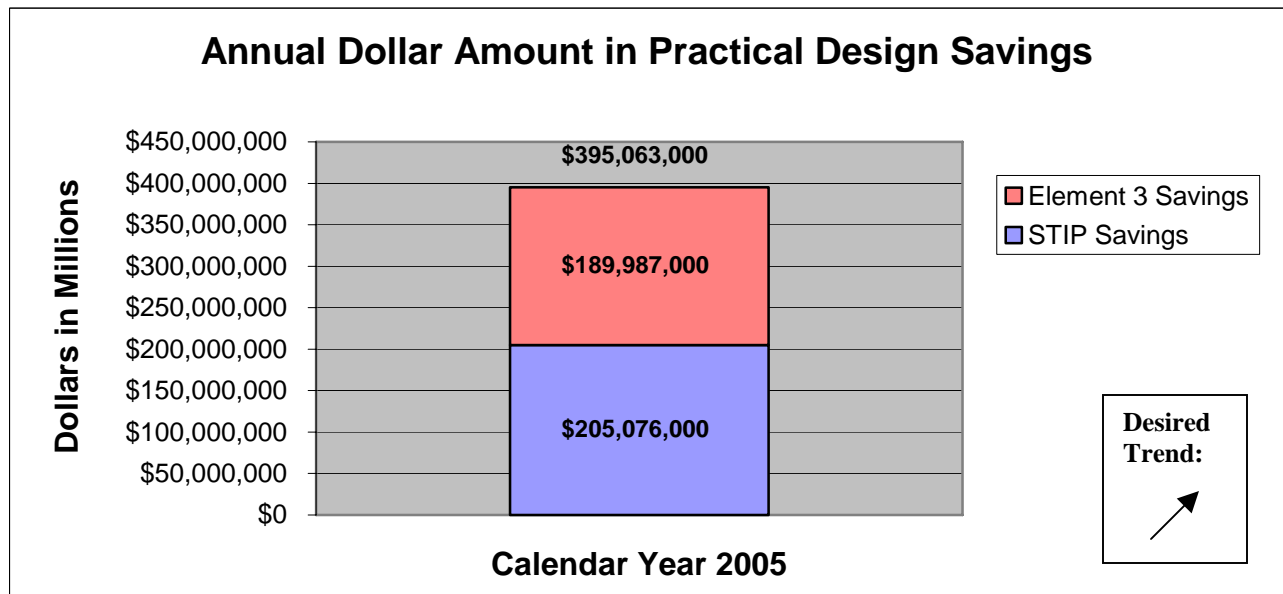
**Measurement and Data Collection:**

At the project level, significant innovations that should result in cost savings can be realized through design modifications. These are variations from standards to fit the individual characteristics of a specific project. In MoDOT's new design environment, "Practical Design" is the umbrella for a more widespread application of this process.

**Improvement Status:**

With the advent of Practical Design in late 2004/early 2005, nearly \$400 million in savings has been realized (as reported to the Missouri Highways and Transportation Commission in June). MoDOT's 10 districts examined projects that were already included in the 2005-09 STIP to see if they could reach an aggregate goal of 10 percent savings. The eventual total of \$205,076,000 represented a savings of 13.8 percent. Practical Design was also applied to the major projects that were considered within Element 3 of the Smoother, Safer Sooner program, which utilized funds made available by last year's passage of Amendment 3. The cost of 21 projects was reduced by 11.7 percent – or \$189,987,000 – that enabled the reprogramming of an additional five projects.

Additional Practical Design savings for projects that were already included in the 2005-09 STIP will be captured in June 2006, during the next programming cycle. For projects beyond 2009, it is expected that they will be designed and delivered with an application of Practical Design from the very beginning of the project development process. The new Engineering Policy Group, formed this summer, is working toward an early '06 rollout of formal practical design guidance that will affect change in MoDOT's design culture and create an environment for significant future project economies.



## Innovative Transportation Solutions

### *Number of external awards received*

**Result Driver:** Mara Campbell, Organizational Results Director

**Measurement Driver:** Rebecca Geyer, Organizational Performance Specialist

**Purpose of the Measure:**

This measure tracks the number of external awards received by the department. These awards display the department's dedication and efforts towards efficiency, innovation and quality throughout the organization.

**Measurement and Data Collection:**

Each district and division office tracks the awards presented to the department by external organizations, to include all awards presented to individuals, teams, districts, divisions and MoDOT as a whole. This data enables the department to measure progress and encourage further participation in award programs. It also provides opportunities for the department to increase public awareness of department activities. Data collection began for this measure on January 1, 2005. In order to continue to improve on this measure, MoDOT sought and found an organization that counts awards received, HNTB Corporation. As a national transportation infrastructure engineering consulting firm, HNTB applies to various award programs nationwide and tallies the number of awards received annually.

**Improvement Status:**

MoDOT received eleven awards in the first quarter of CY06 which was one more than the number received in the same quarter last year. A benchmark for this measure as described above is the engineering firm of HNTB, and using their nationwide count from last year, MoDOT exceeds the amount this firm has won by 32 awards. Significant awards won in this timeframe were: "Rosa Parks Diversity Leadership Award" from the Women's Transportation Seminar (WTS) for MoDOT's efforts to retain and promote qualified women and minorities; Employer Support of the Guard and Reserve's Award for MoDOT's support of employees serving in our nation's Guard and Reserve Force; and Asphalt Recycling and Reclaiming Association's "Excellence in Cold-In-Place Recycling Award" for an innovative pilot project completed on Route 71 in District 1. MoDOT is continuing to apply for awards to maintain these positive results.

